



### Claims

1. An infinitely variable directional valve comprising a valve body through which the connection from an inlet port (2) to a discharge port (4) can be controlled to be opened and comprising a blocking means for a substantially leakage-free shut-off of the inlet (2), the blocking means being designed to include a pilot control device, characterized in that the valve body is embodied as seat slide (10) and includes a closing cone (42) which is prestressed counter to a valve seat (22), and that the seat slide (10) has a control edge (40) by which the connection between the inlet (2) and the discharge (4) can be controlled to be opened in a directional control valve function, wherein in the closing cone (42) a pilot control valve seat (66) is formed counter to which a pilot control valve body (50, 56) is prestressed.
2. A directional valve according to claim 1, wherein the pilot control valve body (56) can be lifted off the pilot control valve seat (66) in the closing position of the closing cone (42).
3. A directional valve according to claim 1 or 2, wherein the pilot control valve cone (56) is guided outside the seat slide (10).
4. A directional valve according to claim 2 or 3, wherein after a predetermined stroke the pilot control valve body (50, 56) abuts against a driving shoulder (58) of the seat slide (10) so that the latter is movable into its directional control valve position.
5. A directional valve according to any one of the preceding claims, wherein the seat slide (10) comprises a control collar (36) including control notches (38) which is



arranged at a distance from the closing cone (42) and through which an axial bore (68) is passed which is stepped back to a pilot control valve seat (56) in the area of the closing cone (42).

6. A directional valve according to claim 5, wherein the closing cone (42) and the control collar (36) confine, in axial direction, an overflow chamber (16) which is connected to the axial bore (68) by means of at least one jacket bore (70) of the seat slide (10).
7. A directional valve according to claim 5 or 6, comprising a proportional magnet (12) the tappet (50) of which is connected to the pilot control valve body (56).
8. A directional valve according to claim 7, wherein the proportional magnet (12) is a drawing magnet.
9. A directional valve according to claim 7 or 8 and 4, wherein the seat slide (10) includes an engaging dog (46) in which the end portion of the pilot control valve cone (56) or of the tappet (50) on the side of the valve seat engages, wherein in an initial position a rear wall of the engaging dog (46) forming the driving shoulder (58) is formed at a distance corresponding to the initial stroke from an annular shoulder (54) of the pilot control valve cone (56) and of the tappet (50), respectively.
10. A directional valve according to any one of the preceding claims, wherein the seat slide (10) abuts against a control spring (30) after a predetermined stroke ( $s_1$ ).
11. A directional valve according to claim 10, wherein the end of the control spring (30) on the side of the seat slide is supported on a valve spring retainer (32) against which the seat slide (10) abuts after the stroke ( $s_1$ ).



12. A directional valve according to any one of the preceding claims, wherein the pilot control valve cone (56) is prestressed in the direction of the seat slide (10) via a tracking spring (64).